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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/817,673	04/21/97	ATTWATER D	36-1008

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EXAMINER	
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ART UNIT	**PAPER NUMBER**
2741	5

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 08/817,673	Applicant(s) Attwater
	Examiner Sax, Robert	Group Art Unit 2741

☒ Responsive to communication(s) filed on *Apr 21, 1997*.

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *1-33* is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-33* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☒ The drawing(s) filed on *Apr 21, 1997* is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☒ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). *4*

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the connection process, control means and functions listed under operable functions must be shown by drawings of the apparatus or the feature(s) canceled from the claim(s). No new matter should be entered.

Box 4 on Fig. 1 should be titled more clearly as a structural element such as CONTROLLER or CONTROL MEANS.

Items which relate to essential features of the invention are not shown by drawings, such as structural features cited in apparatus claims; of " a connection of words of one set to words of another set", "control means connecting words of one set to words of another set", " a measure obtained for measuring a relevant word", "an apparatus arranged to perform additional recognition processes", " a means to recognize a failure condition", "means to initiate recognition processes in the event of a failure, "telephone line connection", "means responsive to telephone line connection of signals", "signals indicating origin or destination of calls", "entries defined as connected", "speaker verification means", "stored sets of recognition data in different languages and regional accents", "stored sets of recognition data for different types of telephone apparatus", "means to list all patterns of a second recognition data set related to identified patterns of the first set", "a means of meeting a predetermined criterion for speech signal identification"; and method

steps cited in method claims; of "receiving a second signal", "compiling a list of words as a function of the second signal", "recognize a signal as a letter or sequence of letters", recognize tones generated by a keypad", "recognize signals indicating origin or destination of calls", "perform recognition of speech signal or some other type of signal", "retrieve stored speech signal in the event of a recognition failure". The structural element are not shown on Fig. 1 which is the only apparatus drawing in the application. Fig.'s 2-4 show functions which describe what the invention is intended to do but does not relate to what the invention is as an apparatus with features shown on Fig. 1.

CLI DETECT 20 and PATTERN STORE 21 are shown on Fig.. 1 as elements in an alternative input path, wherein the structural limitations for identifying input signals and selecting the appropriate input path is not shown on a Fig. 1. The alternate path from LINE INTERFACE 2 is shown on Fig. 1 as outputting data from TOWN RECOGNITION DATA 6 to SPEECH RECOGNIZER 5 without having performed the speech recognition and control means of external utterances directly sent to SPEECH RECOGNIZER 5 from LINE INTERFACE 2. What information is transmitted along this alternative path to SPEECH RECOGNIZER 5, as differentiated from or related to input of utterances and input of other related signals which are directly inputted to SPEECH RECOGNIZER 5, and how the flow of such data is controlled by selecting a sequence of optional data paths is not shown by features of the apparatus on Fig. 1 and is not otherwise explained in the specifications. Reference in the specification (see page 9 last paragraph) describes CLI DETECT 20 retrieving surnames, along with a list of functions which

relate the surnames to roads, from DIRECTORY DATABASE 9. Fig. 1 shows the invented apparatus without showing features of the apparatus on Fig. 1 which would have been essential for creating a data flow required to perform this task.

On 1, 2, 5, 4, of Fig. 1; on 13 and 18 of Fig. 2 ; on 10 and 12 of Fig. 3 ; on 10 and 11 of Fig. 3a ; on 12, 13, 17, 18 and 22 of Fig. 4; the decision processes required for branching or accepting a signal from two or multiple inputs is missing and not described in detail by the specifications. On 12, 17 and 22 of Fig. 2; on 12 and 42 of Fig. 2a; on 13 of Fig. 3; on 51, 54, 59 and 60 of Fig. 3a; on 13, 18, 30, and 36 of Fig. 4; branches of the data flow path are missing as would have been essential in describing all possible cases of accessing directory information.

Specification

2. The following guidelines illustrate the preferred layout and content for patent applications. These guidelines are suggested for the applicant's use.

Arrangement of the Specification
Content of Specification

(a) Title of the Invention: See 37 CFR 1.72(a). The title of the invention should be placed at the top of the first page of the specification. It should be brief but technically accurate and descriptive, preferably from two to seven words.

(b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.

© Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.

(d) Reference to a "Microfiche Appendix": See 37CFR 1.96© and MPEP § 608.05. The total number of microfiche and the total number frames should be specified.

(e) Background of the Invention: The specification should set forth the Background of the Invention in two parts:

(1) Field of the Invention: a statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."

(2) Description of the Related Art: a description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."

(f) Brief Summary of the Invention: a brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.

(g) Brief Description of the Several Views of the Drawing(s): a reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.

(h) Detailed Description of the Invention: a description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. This item may also be titled "Best Mode for Carrying Out the Invention." Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.

(I) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet. (37 CFR 1.52(b)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps.

(j) Abstract of the Disclosure: a brief narrative of the disclosure as a whole in a single paragraph of 250 words or less on a separate sheet following the claims.

(k) Drawings: See 37 CFR 1.81, 1.83-1.85, and MPEP § 608.02.

(l) Sequence Listing: See 37 CFR 1.821-1.825.

3. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

4. The disclosure is objected to because of the following informalities: requires subtitles as suggested above.

The application needs subtitles such as those described above.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-33 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for accepting a first and second speech signal and recognizing speech signals as words in a first and second data store and cnd does not reasonably provide enablement for function means of testing reliability, compiling lists of words after receiving a first and second speech signal, relating patterns of the second set to patterns of the first set, defining entries, connecting entries, controlling speech recognizer access to recognition data, compiling lists of identified speech signals connected to entries in other data stores, weighting similarity of identified entries, counting words defined as connected, controlling elimination of words from a list, compiling a list of words before performing speech recognition, marking items in a recognition store, control ling operations following compilation of a list, selecting entries of a data store connected with an identified word of anther second or third recognition data store, identifying interpreting and responding to telephone signals from a telephone connection, restricting speech recognizer operation to a subset of possibly identified utterances, marking items in a recognition data store, speaker verification, generating recognition data, responding to telephone connections, coordinating the results of speech recognition to telephone calls, recognizing different languages, recognizing different types of telephone apparatus including a mobile telephone channel, storing definitions of words in a data store, controlling access to recognition data stores, relating words identified in a second set to words identified in a first set, connecting words defined as connected, recognizing pronounced alphanumeric characters pronounced as required for as spelling a word, handling tone signals combined with a spoken input, speech

recognizer means of interpreting command signals which determine and respond to the origin or destination of received signals, recognizing tones emitted by a keypad and connecting entries to identified words. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention because commensurate in scope with claims 1-33. The features listed as non enabling are not shown on a drawings with detailed description in the specification.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) a patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bielby in view of Paeseler.

Claims 1-33 are treated as a unit because part of the claim language refers to a list of function means which are non enabled by drawings of the apparatus and the detailed description in the specification. Lists of functions are included in claims 1-33 claiming function means operable in performing operations which determine what the invention is intended to do. These are described by Figures 2-4 with detailed description in the specification; but the structure of the

invention is not shown in drawings with detailed description of the parts and features described so as to be enabling.

The parts of the claims enumerating functions not related to the apparatus shown by Fig. 1 or not described in the specification were removed from consideration in searching for prior art because the applicants apparatus must be structurally distinguished from prior art, language describing the manner of operating the apparatus does not distinguish the invention from prior art, and even if a prior art performs all functions of the invention it still does not anticipate the apparatus (MPEP 2114).

9. As per claims 1-33 of a telephone directory information service comprising:

(1) a telephone line interface for accepting input of spoken locality names and called entity names as inputted digital signals, or for automatically outputting information as outputted digital speech signals; Bielby teaches an apparatus which performs desired services such as automatic directory assistance functions based on prompts for the input of spoken requests (column 1 lines 9-14) for input of a spoken locality names or spoken caller entity names (abstract), also, referencing US Pat. No. 4,979,206 as background, Bielby teaches automatically completing directory assistance calls by outputting telephone numbers of the inputted spoken locality words and called entity names, outputting information in response to spoken requests by automatically releasing the telephone number to the caller (column 1 line 47 - column 2 line 2; column 10 lines 17-58; column 19 line 63 - column 20 line 44);

(2) a first digital speech signal, which is the response to a prompt for a spoken locality name, is sent from the telephone line interface as a speech signal input to the speech recognizer whereby a controller connects the speech recognizer to a recognition data store containing a set of entries of representative digital speech signal patterns of candidate locality names and the speech recognizer recognizes a subset of locality names based on similarity of the caller inputted digital speech signal to each of the matched representative digital speech signals; Bielby teaches application of speech recognition to a received speech signal to recognize a subset of multiple candidate representative digital speech signals, representative of the called locality, as possible matches to the inputted speech signal ranked by log likelihood per frame (column 7 lines 9-31; column 10 lines 17-58).

(3) a second digital speech signal, which is the response to a prompt for a spoken called entity name, is sent from the telephone line interface as a speech signal input to the speech recognizer whereby a controller connects the speech recognizer to a recognition data store containing a set of entries of representative digital speech signal patterns of candidate called entity names and the speech recognizer recognizes a subset of called entity names based on similarity of the inputted digital speech signal to each of the matched representative digital speech signals; Bielby teaches application of speech recognition to a received speech signal to recognize a subset of multiple candidate representative digital speech signals, representative of the called entity name, as possible matches to the inputted speech signal ranked by log likelihood per frame (column 7 lines 32-41;).

Although Bielby teaches a first speech signal input of a locality for identifying stored speech signals indicating localities and a second speech signal input of an entity name for identifying stored speech signals indicating entity names; Bielby does not teach a third speech input and the corresponding third list of stored speech signals to be identified.

Paeseler teaches a third speech input and the corresponding third list of stored speech signals to be identified by teaching continuous recognition of syntactically related lexemes, as subword, word and phrase units, wherein each lexical unit is the input of an utterance of syntax determined by identification each recognized utterance as a lexical unit in a first, second or third store of utterances of respective lexical units, each store of the first second and third store of given syntactical meaning for ordering or parsing a sequence utterances of the three grammatical units to be meaningfully connected as a sequence of connected morpheme, word or phrase units (abstract; column 1 line 5 - column 2 line 45; column 6 line 49 - column 7 line 27)

It would have been obvious to an artisan at the time of the invention to apply Paeseler's method of categorizing three speech recognition data stores by assigning syntax values which address other related speech recognition data stores; teaching the town name as a first utterance to be identified in a first reference store as a first unit of syntax identified in a first speech recognition store; street name, as a second unit of syntax identified in a second speech recognition store, and called entity name, as a a third unit of syntax identified in a third speech recognition store. This would have been useful to the applicant as a means of automatically identifying keywords, out of a small list of a reference keywords imbedded in continuous speech, to obtain

keywords in the order of desired reference value as required to sequentially search a directory database.

10. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 308-9051, (for formal communications intended for entry)

Or:

(703) 305-9508 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Sax whose telephone number is (703) 306-3017. The examiner normally can be reached on Monday to Friday from 9:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on (703) 308-4825, or fax phone number for this Group is (703) 305-9508.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703)305-3900.

RLS

August 21, 1998

DAVID R. HUDSPETH
SUPERVISORY PATENT EXAMINER
GROUP 2700